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A NEW METHOD

OF

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OF THE

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URETHRA,

AFTER

EXTERNAL SECTIONS.

BY C. H. MASTIN, M. D.,

MOBILE, ALA.

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[*Read by Request before the Mobile Pathological Society.*]

Gentlemen,—It is not my intention to consume your time with a didactic article upon Urethral Stricture, I only propose to call the attention of the Society to a modification of an operation, which, in my hands, has afforded unusual results; and, by comparison with other methods, to try and point out certain other advantages which I believe its adoption will furnish.

This article is written especially as a prelude to a report of cases; cases which many of you have seen, and which will be given to illustrate the proceeding which I have adopted; a proceeding which shall be recorded with an accurate truthfulness as to results. As yet I do not claim this method to be perfect, or that we will in all cases meet with invariable success.

Much has been done, but still more remains to be accomplished before the method will be fully established. Yet I do not hesitate to say, from the success which has crowned my efforts, that I believe the end of further experience will be, that a hitherto serious and dangerous operation will be robbed of its terror by the adoption of the method, as I shall describe it.

From the remotest times surgeons have been compelled to resort to external incisions in particular cases of severe and unmanageable strictures of the urethra, when ordinary measures had failed to afford relief.

The operation which is generally known as "The External Section" or "External Urethrotomy," has within a few years past been popularized by a surgeon of Edinburgh (who is distinguished especially in this department of surgery), and has found its way into general practice as the "Perineal Section" or "External Urethrotomy" of Mr. Syme.

Indeed, it would appear that it is only of late this proceeding has been known to the Profession at large, although when we come to investigate the subject, it is apparent that it is by no means a new operation, but one of considerable antiquity, and before we enter into the merits of the same, it may serve a purpose to examine and see to what extent the old writers were acquainted with this operation.

They knew and wrote of an operation which they called "La Boutonniére." It is unfortunate, as suggested by Dr. Gouley, of New York, that there has been so much uncertainty in the exact definition given of the various methods of performing this operation. The term "boutonnière" is an undefined term, it means one thing here and another thing there, it is applicable to operations at any point in the urethra, whilst the term "Perineal Section" would refer alone to those incisions made in the perineum. So also "Perineal Urethrotomy" of Civiale is alike applicable to either *internal* or *external* urethrotomy *done* in the perineal region.

The "External Urethrotomy" of Syme is indefinite, it refers to an external operation done in any part of the canal. Prob-

ably the most unexceptionable term is the one proposed by Dr. Gouley—viz., "External Perineal Urethrotomy," and none other could be preferable where the operation is performed "in perineo"; but as external sections may be called for in the entire course of the canal, it seems to me that by designating the point at which the operation is done, a clearer understanding would be given. As there are *three distinct regions** in which strictures are to be found, I have thought it would render the description more explicit by using the term "External Urethrotomy in the first, second, or third region," as the case may be. Thus, when an operation is done in perineo, we would say, "*External Urethrotomy in the first region*"; when anterior to the scrotum, "*External Urethrotomy in the second or third region*," according to the exact locality.

It appears to me this classification simplifies the description, and that a clearer understanding can be given by its adoption.

The distinguished Wiseman, a surgeon of more than ordinary ability in the early part of the seventeenth century, was certainly acquainted with the operation of opening the urethra in cases of retention of urine dependent upon impermeable strictures, and this fact is clearly proved by a case which he narrates in his Surgery† as having occurred under his observation in the practice of Mr. Edward Molins.

"An old fornicator having been long diseased with a *carnosity*, which had resisted all endeavors, and in a manner totally

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* The First Region is at the sub-pubic curvature, or that portion of the canal immediately in the vicinity of the junction of the spongy, with the membranous parts, being 1 inch in front of and ¾ of an inch behind the junction, thus including the entire membranous portion with one inch in front, which gives the first region a length of 1¾ inches.

The Second Region extends from the anterior limit of the first region to within 2½ inches of the external meatus of the urethra, consequently being in length from 2½ to 3 inches.

The Third Region is from the anterior extremity of the second to the meatus externus, being a space of 2½ inches, and embracing the fossa navicularis.

† See Wiseman's Surgery, p. 76. The author on "Internal Urethrotomy."

suppressed his urine, sent for him. He went and caused the patient to be taken out of bed and placed upon a table with his legs drawn up as in cutting for stone. He cut into the urethra near the neck of the bladder; it was as hard as a gristle. His knife did not readily divide it; but so soon as he had, the urine gushed out, which being discharged, he put his finger into the urethra, and afterwards enlarged the incision upwards more to the scrotum, then dressed it with his green balsam warm, by which in a few days it digested, and the patient was relieved; the lips grew also daily shorter, and the wound healed apace. But all this while the urine had no other passage, *the common ductus being so closed up, by reason of the carnosity*, that we could not make any way into it with our smallest probes or candles, upon which consideration it was thought necessary to keep the opening *in perineo* for the discharge of the urine, and in order thereto it was dressed with a dossil, an emplaster, and compress, which the patient took off at times to ease nature. But this not satisfying him, he frequently complained of his unhappy condition, in so much that Mr. Edward Molins, being wearied with the patient's solicitation, took me one morning along with him, when again he placed the patient as before, and attempted to make a way from the *apex* into the urethra; but it was in vain; whereupon he caused one of his servants to hold the one leg and myself the other, while he took up the testicles and put the one into my hand, and the other he placed into the hand of his servant; then with his knife divided the scrotum in the middle (we holding each testicle the while in our hands) and cutting into the urethra, slit it the whole length of the incision *in perineo;* then with a needle and thread stitched the skin over the urethra, as also the scrotum, leaving the testicles covered as before, and dressed them with agglutinatives, by which they were cured in a few days, but the urine nevertheless continued to flow by the opening *in perineo.*"

There can be no question that this was a case of obstinate stricture of the urethra, and that Mr. Molins had to resort to the operation of "External Urethrotomy in the first region," which,

however, resulted in a perineal fistula; here no guide was passed through the stricture, and his first operation was doubtless performed behind the stricture for the purpose of giving exit to the retained urine. The second operation at which Wiseman assisted was done in front of the stricture, and upon the principle of la boutonnière. Subsequently to this operation, Wiseman himself performed an operation for the same cause, and after the same method, but, as it appears, with no better success, for "a fistula remained in the perineum."

In 1730, A. D., over one hundred years *before* Mr. Syme performed his first operation, which was in 1844, Le Dran operated by this method upon a case of "organic impassable stricture," which operation he performed at two sittings; at the first he opened the perineum down to the urethra, on the next day he opened the urethra, and in the course of five days having gradually introduced a bougie on into the bladder, he "slit up the urethra behind the stricture as far as the neck of the bladder," doing, as he says, "the same incision as for the stone, and taking care to avoid the rectum." After which he gradually dilated the canal with sounds, and the patient got well.

Sometime anterior to this, Francois Collot, the distinguished French lithotomist, relates the history of two cases of obstinate stricture, complicated with numerous fistulæ, upon which he had operated by external incision in 1690, A. D., both of which he reports as being cured.

Even before this date F. Tolet, in his writings, speaks of the operation of "la boutonnière."

Still later, we find John Hunter, in his great work "On Venereal," London, 1788, advising this operation for the cure of strictures complicated with perineal fistulæ, he himself having performed the operation for this purpose in 1783, at St. George's Hospital, in London, and in his description of the proceeding, thus writes:

"This must be done by an operation which consists by making an opening into the urethra somewhere beyond the stricture, and the nearer the stricture the better. The method

of performing the operation is first to pass a director or some such instrument into the urethra as far as the stricture; then to make the end of the instrument as prominent externally as possible, so as to be felt, which, in such a case, is often difficult, and sometimes impossible. If it can be felt, it must be cut upon, and the incision carried on a little further toward the bladder or anus, so as to open the urethra beyond the stricture. This will be sufficient to allow the urine to escape and to destroy the stricture. If the instrument cannot be felt at first by the finger, we must cut down towards it, which will bring it within the feel of the finger, and afterwards proceed as above directed."*

Another very clear and positive description of an external section for the relief of an obstinate stricture.

Again, Mr. Sharp, in his essay entitled "A Critical Inquiry," published in London, 1750, describes this operation "by cutting *in perineo* if possible upon a staff."

Then we find Chopart performing the operation "la boutonnière in 1786" upon a case of stricture which was complicated with fistulæ, the fistules healed, but the wound in the perineum refusing to do so, the urine all passed in that way.

Still searching the literature of England, we find Sir Charles Bell, speaking of this operation for the cure of strictures which are complicated with fistulæ in the perineum, describing it in the following language:

"This state of the parts requires a different operation, one ill to suffer and requiring dexterity and niceness in the operator. The patient is placed in the position of lithotomy; a straight catheter or sound is introduced into the urethra down to the obstruction, then a probe is introduced into the fistulous opening in the perineum; often the straight probe will not follow the obliquities of the canal; it must be bent, and made if possible to hit upon the extremity of the catheter or sound. It cannot be made to touch the catheter, because the catheter

* "Hunter on the Venereal." London, 1788, p. 209.

is within the urethra and *above* the stricture. The diseased integuments of the perineum are now to be laid open down to the tract of the urethra. If there is one sinus leading towards the stricture, it is to be followed; but if there are several, and they run deep backwards, it is impossible to follow them towards the neck of the bladder. In this part of the operation a decided incision and a fair wound is to be wished for."*

In continuance of this description he goes on to state—

"If we should fail in attempting to introduce the probe into the fistulous communication, *we must cut upon the stricture and the point of the staff; and now again searching with the probe for the continuation of the canal towards the bladder, and having found it, introduce the catheter from the point of the penis past the stricture down into the bladder.*"

There could not possibly be written a sentence which would more clearly describe an operation than does this one, "the External Section," which is known and described by the French writers as "la boutonnière"; yet it is a very difficult matter to arrive at the exact idea which these authors wish to convey when they use this term. The operation has been performed in so many ways that we are at a loss to understand the precise operative procedure which different writers wish to class under the general term. The locality at which the operation is done necessitates a change in the line of incision; in one instance the urethra is opened at a point just above the stricture; in another, the knife penetrates even to the neck of the bladder; whilst in the next, the neck and body of the prostate are opened as in the lateral operation for stone.

The most explicit description of this operation is to be found in the works of P. J. Desault, edited by Xavier Bichat. In his treatise upon the Urinary Organs† we find the following language, which explains the operation and shows it to be almost

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* Sir Charles Bell, "Operative Surgery." London, 1807, p. 121.

† Desault, Traité des maladies des voies urinaires, p. 330. Tome III., Paris, 1830.

identical with that of Mr. Syme. "On ne suit pas toujours le même procédé en pratiquant la boutonnière sur le canal de l'urètére. Lorsque l'on peut introduire un catheter dans la vessie, on se sert de cet instrument pour faire sur sa cannelure l'incision du canal et conduire une gorgeret. Ici l'operation ne presente pas plus de difficulté ni de danger que l'incision pour la taille au grand appareil, mais aussi elle n'offre aucun advantage dans le traitement des retentions d'urine; car puisque on a pu introduire un catheter, il eût servi a l'évacuation de l'urine et rétabli par son sejour la liberté du canal."

This evidently shows the operation was done by passing down a grooved director to the anterior face of the stricture, and also by passing the *instrument through the coarctation itself*, after which the stricture was cut upon the director. It has been asserted that this operation was done by Desault, not for the cure of stricture, but for the relief of retention of urine. If done for the relief of retention, it was certainly a most uncalled for proceeding, for we see that he passed the *sound through* the stricture, and upon the same principle that Mr. Syme sets out—viz., where the urine can pass, through the same opening he can pass a director. Now vice versa, wherever a sound can be made to pass, there also is an opening for the discharge of the urine. That such however was not the idea which Desault wished to convey, we have but to turn to the same work above quoted, and read upon page 245, where he is treating of stricture and its cure, *not of retention*, as follows:

"L'operation connu sous le nom de l'boutonnière, quoique en apperance mieux adaptee à la nature de la maladie, est presque toujours ou inutile ou dangereuse. Elle est inutile, si pour la pratiquer on peut passer un catheter ou une sounde cannulée; puisque alors on aurait pu de même y porter une sounde creuse; elle est dangereuse si l'on ne peutètre guidé par ces instruments; puisque alors on fait les incisions au hazard, et que l'on peut manquer le canal, et diviser des partes dont la lesion est suivie d'accidents plus on moins grave."

Without taxing the reader with a more extended historical

notice of the operation, it will be well to analyze the same, and see what deductions can be drawn from the descriptions which are given by various writers. It is very clear to my mind that la boutonnière was performed in three ways. The first method is the one especially noted by Desault, and is essentially the same in every respect as the operation of Mr. Syme—viz., upon a conducting director, which is passed through the stricture, and upon which the incision is made. Secondly, where a staff is passed down to the anterior face of the stricture and the urethra opened in front, then the stricture, together with the integuments all laid open upon a director, which is introduced through the stricture from its distal opening. Thirdly, in which a staff is passed down to the stricture, and the urethra opened in the membranous portion posterior to the obstruction, through which opening a grooved probe is introduced past the stricture until it comes in contact, or nearly so, with the end of the staff, which lies upon the anterior face of the coärctation, in the groove of which a knife is passed from behind forwards, and the entire stricture, wall of urethra, integuments and all, ripped open. This latter is the method generally adopted by the French surgeons. It appears to me that there will be much difficulty in opening the urethra, unless there is a staff present against which the point of the knife can be directed, and unless the opening in the membranous urethra can be made surely and smoothly, we run the risk of urinal infiltration with all its concomitant results.

We now propose to notice and describe the operation of Mr. Syme, a method which in recent years has been much in vogue, and which has caused much angry discussion. It is not my intention to reflect any thing upon his operation or to pretend to decide whether it was original with himself, or borrowed from the older sugeons. A brief review of the history of the operation will decide the question as to whether it was a creation of this distinguished Edinburgh Professor or a revival of a proceeding which had fallen into disuse. For our purposes, it will suffice to quote Mr. Syme's own description of his operation,

and leave it to be compared with that of the other writers already referred to: more especially with the description given by Bichat of the operation performed by Desault. Of course, Mr. Syme presumes the patient to be placed under the influence of some anæsthetic, and secured in the position of lithotomy, when he writes—

"He is brought to the edge of the bed, and his limbs supported by two assistants, one on each side, a grooved director, slightly curved and small enough to pass readily through the stricture, is next introduced, and confided to the care of an assistant. The surgeon sitting or kneeling on one knee, now makes an incision in the middle line of the perinæum or penis, wherever the stricture is seated; it should be an inch or an inch and a half in length, and extend through the integuments together with the subjacent textures exterior to the urethra. The operator now takes the handle of the director in his left hand, and a small, straight bistouri in his right, feels with his fore finger guarding the blade for the director, and pushes the point into the groove behind, or on the bladder side of the stricture, runs the knife forwards, so as to divide the *whole of the thickened texture* at the contracted part of the canal, and withdraws the director";* a silver catheter is then introduced along the urethra into the bladder, and bound in by tapes passed through the rings of the catheter and tied around the loins; it is left in from forty-eight hours to four days, after which time it is removed, and at the expiration of eight or ten days a bougie is to be passed, and its introduction repeated every eight or ten days for two months.

It will be observed that Mr. Syme makes a point, that the stricture should be permeable, for he distinctly says in his work on stricture—

"Now, there is nothing of more consequence in the treatment of strictures than the knowledge of the fact that this alleged impermeability has no real existence, except in those

* Syme on Stricture of the Urethra, Edinburg, 1852.

rare and exceptional cases, where the urethra has been divided by violence, and allowed to cicatrize with obliteration of the passage beyond the opening at the seat of injury. It is obvious indeed that if the urine is permitted to pass, no matter how small a stream, or even by drops, there must be room for the introduction of the instrument if it be sufficiently small and properly guided."

Still with this passage, fresh from the pen of Mr. Syme, staring us in the face, we find him on two occasions dealing with strictures where he found it impossible to pass a director, although "sufficiently small and properly guided," *he was unable* to effect an entrance, and was forced to perform la boutonnière (in our second classification), that is, by opening the urethra at the seat of the stricture and passing a grooved probe from the distal face toward the bladder.

I am forced to look upon the operation of Mr. Syme as one against which grave objections can be brought to bear. He starts out with the broad proposition: "No stricture is impermeable" (excepting of course those cases where the urethra has been injured and the canal opened, a fistula remaining, with the tube anterior united in its walls at the site of injury) "that wherever a drop of urine can pass, with care and patience an instrument can be introduced." This may answer very well in those simple cases of linear stricture, which are little more than a thread around the urethra, being of no extent antero-posteriorly. Here the mere entrance of an instrument into the orifice of the stricture is almost equal to its passage, the least pressure will effect all which is required; but in those cases of long, tortuous stricture, where there is an extensive fusion or blending together of the rugæ of the urethra, complicated perhaps with more than one false route, it will require the utmost dexterity to introduce an instrument; such dexterity and manipulation as does not belong to many men; it may be possible for the gifted surgeon of Scotland to effect this much, but for those who are not in constant practice, with a daily and almost hourly use of urethral instruments, those practitioners

of medicine who are scattered through the towns, villages and rural districts of our country, who do not handle a sound or catheter once in a twelve month, but who may be called upon at any time to perform such an operation, in cases of emergency, they will, in ninety-nine out of every hundred cases, fail to effect an entrance.

If, however, the assertion of Mr. Syme is correct, that no stricture is impermeable, then I cannot see the necessity or propriety of resorting to so dangerous and difficult an operation as "External Urethrotomy" to effect a cure, for wherever a guide rod to a sound can be passed through a stricture, there also can the conducting rod or bougie of the Internal Urethrotome be introduced, and I am sure no sane man, or one who values the life and happiness of his patient, with all the dangers and difficulties of an external operation clear before his mind, could prefer such a proceeding to the more delicate and less dangerous operation of internal section, performed with the urethrotome of Maissonéuve, Trélat, Ricord, or the more ingenious one, recently devised and fabricated by that accomplished cutler of Paris, M. Mathieu.

If circumstances should make it necessary that we should perform the operation of external urethrotomy, it is clear to my mind, with all the lights before me, la boutonnière is, *par excellence*, the one most deserving of selection. I mean la boutonnière as it is described in my *second* classification, that is *upon the point of a staff*. Here we are in front of the stricture, and can limit our incisions from before backwards, whilst in the operation of Mr. Syme, or la boutonnière in the first degree, we open the urethra posterior to the stricture, and where the same is located in the first region, we run the risk of cutting the deep perineal fascia, with the consequent danger of urinal infiltration of the pelvis and deep perineal region. With these points of objection clear before us, it seems strange indeed that Mr. Syme himself should object to the la boutonnière, and that he should reject the operation as one "extremely hazardous and dangerous," and that too in cases where it ap-

pears to be the only remedy. Yet he insists upon his own as one "*free from danger*," and that in cases of less gravity, where it is apparent his operation is the very same, with only a slight modification. It is not then astonishing that this operation of Mr. Syme should have met with so much opposition, and that too in his own country, notwithstanding his high (and deservedly so) reputation as one of the most distinguished surgeons of the British Isles; but it is a notorious fact, that even in his own city the most bitter invectives have been cast upon his operation, together with the serious charge that his cases have not been fairly or even correctly reported by himself. These charges have been made by some of the most distinguished members of the Colleges of Surgeons of England, Scotland, and Ireland. On the continent of Europe it has met with the same fate, and was even rejected by a Commission of the French Academy, which sat in judgment upon it. It is said that Civiale himself never employed it, although he is known frequently to have resorted to the operation la boutonnière; and in this country I believe it has not met with general favor. Dr. Gross, in his work on the "Urinary Organs,' thinks that all or nearly all strictures, which are not absolutely impermeable to urine, or those which are located in the membranous portion, or complicated with fistules of the perineum—false passages—with great and extensive induration of the adjacent tissues, admit of permanent, and in most instances, of prompt cure by dilatation either alone or aided by internal incision.

In indulging in this opposition to the operation of Mr. Syme, I do not do so for the purpose of holding up la boutonnière, or *any* of its modifications, as free from danger. Such are not the views which I entertain, nor the ideas which I wish to inculcate. Indeed, I do not know of any operation done upon the genito-urinary system of like gravity, or more fraught with danger than this, and I concur fully in the opinion of Desault, whose language is so well expressed at page 245 of his work, which I have before quoted.

"Elle est dangereuse, si l'on ne peutêtre guidé par ces in-

struments; puisque alors on fait les incisions au hazard et que l'on peut manquer le canal, et deviser des parties dont la lesion est suive d'accidents plus au moins graves."

Prof. Samuel D. Gross, of Philadelphia, who is probably the best authority on genito-urinary surgery on this side of the great waters, and who would (as he does) stand deservedly high in any country or among any class of surgeons, is emphatic on this point, when he says, speaking of external sections as a class.

"The operation is by no means free from danger, and requires the most consummate skill for its successful execution: none but a madman or a fool would attempt it, unless he had the most profound knowledge of the anatomy of the parts, and a thorough acquaintance with the use of instruments. Of all the operations of surgery, this is the least to be coveted."*

Still, as I have before remarked, there are cases wherein we are called upon to relieve the patient from retention of urine, caused by obstinate and *impassable* or *impermeable* strictures. Now, what are the indications which call for such an operation? what grave complications come up which demand such a procedure? They are retention of urine, dependent upon a hard, firm organic stricture, through which no instrument can be made to pass, and which, if not relieved by some operation, either section of the strictured canal or puncture of the bladder, must result in rupture of the urethra either anterior or posterior to the deep perineal fascia. Here we must either tap the bladder through the rectum, above the pubis, or by the perineum, or relieve the distension by the method of "aspiration," recently proposed and executed by M. Dieulafoy, of Paris; but as all of these methods admit of grave and serious objections, as a consequence we must resort to the more rational operation of an external section, by which we hope to relieve not only the retention, but by the same operation cure the stricture, the cause thereof.

* Gross on the Urinary Organs, p. 801, Philadelphia, 1855.

Under this class of causes we are to include cystitis, hypertrophy of the walls of the bladder, dilatation of the ureters, disorganization of the structure of the kidney, uræmic saturation, etc., following each of which such urgent constitutional distress may occur that it will be dangerous to temporize in attempting relief by gradual dilatation of the stricture; and being unable to pass a conducting director through the coärctation, we are unable to do the operation of internal urethrotomy, hence as a dernier, yet rational resort, we must perform an external section. But it must be remembered, these conditions are of comparatively rare occurrence; by far the great majority of strictures will admit of other means being employed for their relief. In my own experience, out of a very large number of strictures which have fallen into my hands, the large majority have been treated by gradual dilatation, and successfully so. In about a hundred cases I have been induced to resort to internal urethrotomy, and in *nine cases only* have I found "external urethrotomy" requisite.

But, should that rare contingency arise, should your milder measures utterly fail, should the urethra remain absolutely impervious—letting in no catheter, letting out no urine—then undoubtedly, as I have stated, this condition would establish a necessity—a legitimate and imperative and urgent necessity—for your making an artificial vent for the contents of the distended bladder.*

Another condition is, where the urethra has given way, behind the seat of a stricture, and the urine at every contraction of the bladder is infiltrating the tissues, exciting them to inflammation and gangrene; here we are called upon to make large, free and open incisions, to evacuate effused urine; it is well in these cases to carry the knife freely through the strictured part, and thus open the canal to the passage of urine, as it may come from the bladder, thus insuring a cessation of increased infiltration, and, by a judicious operation, lay the

* John Simon, F. R. S., "Clinical Lecture," St. Thomas's Hospital, London, 1852.

foundation for a permanent and successful cure of the stricture.

But it is not my intention to write a treatise upon stricture, or to detail the various causes or modes of treatment; the nature of this article is simply to draw a comparision between the different methods proposed and executed in the form of external operations; the digressions from the path laid out was necessitated to show the complications which arise in the course of this disease, and which demand such a proceeding for their relief.

In this connection, it gives me pleasure, and, indeed, this paper would not be complete, unless I were to mention the very ingenious operation of Professor Gouley, of New York; an operation which I am pleased to consider as a very decided improvement upon that of Mr. Syme, and one which reflects great credit upon the New York professor. I trust it will not be unacceptable for me to give a description of the proceeding in Dr. Gouley's own language, as taken from the "New York Journal" of August, 1869: "The perineum having been shaved, the patient is etherized, the urethra is explored with a flexible bulbous bougie of proper size, to ascertain the exact seat of the obstruction. The canal is then filled with olive oil, and the capillary probe-pointed whalebone bougie is introduced into the urethra. If its point becomes engaged in a lacuna, it is withdrawn a little, and again carried onward with a rotary movement. If it enters a false passage, it is retained *in situ* by the left hand, while another is passed by its side. If this second probe makes its way into the false passage, it is treated precisely as was the first, and the operation repeated till one guide can be made to pass the obstruction and enter the bladder. Sometimes five or six guides are thus caught before the false passage is filled up and the natural route opened. I have frequently succeeded in thus reaching the bladder in very narrow strictures, supposed to have been impassable, and after all other means had failed. As soon as a guide enters the bladder—which may be known by the ease with which an instrument may be moved in and out—the other guides are withdrawn.

The next step is to introduce a No. 8 grooved metallic catheter, with a quarter of an inch of its extremity bridged over, so as to convert the groove into a canal, the bridged portion itself being also grooved. Its introduction is accomplished by passing through the canal the free end of the retained guide, then holding the latter steadily between the thumb and index finger of the left hand, and pushing the catheter-staff gently into the urethra, until its point comes in contact with the face of the stricture. The staff and guide are then kept in position by an assistant, who, at the same time, supports the scrotum. The patient is placed in the lithotomy position, and held by two assistants; or better, by the aid of Prichard's anklets and wristlets.

"The surgeon, seated on a low chair, first makes a digital exploration per rectum, to ascertain, as far as practicable, the condition of the membranous and prostatic divisions of the urethra; he then makes a free incision in the median line of the perineum, extending from the base of the scrotum to within half an inch of the margin of the anus, involving only the skin and superficial fascia. The external incision, usually recommended in this operation, is from one inch to one inch and a half in length; but I believe that free external incisions here, as in lithotomy, are of decided advantage, as they expose fairly to view the subjacent parts, and tend to prevent subsequent infiltration of urine in the superficial layers. A few well-directed cuts having brought into view the urethra, the operator, with his finger nail, feels for the groove in the bridged portion of the staff, and opens the canal upon this groove, longitudinally, in the median line, exposing to sight the instrument. A loop of silk is then passed through each edge of the incised urethra, close to the face of the stricture, and held by the assistant in charge of the corresponding limb. This excellent contrivance, suggested and employed many years ago by Mr. Avery, of Charing Cross Hospital, London, is of great service, and ought not to be omitted, as it constantly keeps in view the median line. When the urethra is opened, and the loops are secured,

the catheter is withdrawn a little, so as to bring into view the black guide; then the stricture, with about half an inch of the uncontracted canal behind it, is divided. This, I think, is best accomplished by means of the small knife, which I have modified from Weber's instrument for slitting the canaliculus lachrymalis. It is a very narrow, beaked, straight bistoury, about the size of a small probe, and is made to enter the stricture alongside of the guide, as if it were a probe, and the incision is done by directing the edge downward. The last step is to pass the catheter-staff, guided by the whalebone bougie, into the bladder; but should it be arrested in its course, the knife must be reintroduced and the incision extended further back. The operation is thus completed without unnecessary delay, and the bladder is entered with the greatest gentleness; and, by the free flow of urine through the catheter, the surgeon is certain that the instrument has gone in the right direction, that he has divided the stricture thoroughly, and that he has not simply enlarged a false passage."

The after-treatment consists in confining the patient to a recumbent posture, with orders to take a hot hip-bath every night; diluent drinks freely, with ten drops of the tincture of iron three times daily, and five grains of quinine at bedtime, with a suppository containing one grain of ext. opii. and half a grain of ext. belladonna every night to induce sleep.

Immediately after the operation, ten grains of quinine with a quarter of a grain of morphia are administered. These are the outlines of the after-treatment. Dr. Gouley does not approve of tying in a catheter, but leaves the case to nature, and the urethra to the free passage of urine; the wound is left to granulate, as after lithotomy operations, and no sound is passed into the bladder until the second day. At the expiration of which a conical steel sound is passed, and its introduction repeated every third day until the wound is healed, which takes place in about four weeks. After which the patient is instructed in the use of an instrument, and advised to continue it indefinitely. Such, in as condensed a manner as possible, is the operation of Dr.

Gouley, and a most valuable contribution it is to the genito-urinary surgery of the present day. The only objection which I can find to his method, is the length of time required (as in all these operations) for the closing of the wound, which is an unavoidable consequence, where the wound is left to heal by granulation. As to the special views in reference to treatment after the operation, and preparation before, they are sustained by sound therapeutic principles.

In closing this historical notice of the operation now under consideration, I desire to draw attention to the method of Henry Dick, of London, which he has brought before the Profession under the term "Subcutaneous Division of Stricture." His method consists in first dilating the stricture sufficiently large to admit the director of his catheter; which is a good sized silver catheter of moderate curve, upon the end of which are two buttons or knobs, with a groove between them; the catheter being hollow, contains a small grooved directing rod, capable of being pushed forward and made to pass the stricture. The operation is made in the following manner: The catheter, with the director concealed within it, is passed down the urethra until its point reaches the obstruction, when, by a dexterous manipulation, the director is passed through the stricture, and on into the bladder; the surgeon then takes a very small, sharp-pointed tenotome, and feeling in perineo for the buttons or knobs, plunges the knife between them in the groove, and then along the groove in the director through the stricture, which is freely incised; the edge of the knife being directed downwards. After the stricture has been freely cut, the director is withdrawn into the catheter, which is now removed from the urethra, and a full-sized catheter carried on into the bladder. The little wound is covered with a bit of sticking plaster, a compress, and a T bandage completes the dressing. No retained sound is left in the bladder, but whenever there are calls to urinate, the water is drawn off with a catheter.

This is certainly a very unique and ingenious operation, and one which strikes at the chief point of objection, to all external

operations—viz., an open wound in the perineum, which, in general cases, must heal by granulation; but there are objections to Mr. Dick's operation which will prevent it from coming into universal use. In the first place, it is a difficult one to perform, and requires a degree of dexterity which does not belong to the Profession at large; then we have no absolute certainty that the director has passed into the stricture; it may have penetrated a false route, and the incision made subcutaneously, in that event, may be productive of serious consequences. Then again, he holds it as a necessity, that the stricture "*must, to a small extent, first be dilated.*" This is required before his conducting director can be introduced. Now, if it is requisite first to dilate the stricture so as to admit the guide for the tenotome, I hold, upon the same grounds, that the objection was made to Mr. Syme's operation; there is no necessity for an external incision. In this, as in every other case where a guide can first be passed, we can perform the gentler, the safer, and more rational operation of internal urethrotomy. External sections are, without doubt, *only* required in those cases where we are unable to introduce any instrument through the stricture.

I now come to the description of the operation which has been adopted by myself, and which, so far, has proved satisfactory to me and to those upon whom it has been performed. The operation itself is nothing more than the old l'boutonnière, in which the incision is made *anterior* to the stricture, a probe passed through the obstruction, and *the stricture cut subcutaneously*, and the wound healed by first intention. It is only resorted to in those cases of impermeable or impassable stricture, where no catheter or guide can be made to pass from the meatus to the bladder; cases which require some operation for the immediate evacuation of the retained urine. I claim as new *only* the method of incising the stricture, and the process resorted to to gain immediate union.

Having duly prepared the patient by cleaning out his bowels with an enema, and a warm hip-bath given to tranquilize his condition, he is placed upon a table and firmly secured in the

position for lithotomy. Being under the influence of chloroform, a staff sufficiently large to fill the urethra and moderately curved at the lower end is passed down to the face of the stricture, and confided to the care of an assistant, who is instructed to elevate the testicles, and keep the point of the staff firmly against the stricture, holding it in such a manner as to protrude the perineum with its point; now, with a sharp-pointed convex scalpel, an incision is made in the line of the raphe, through the integuments down to the outer walls of the urethra, which is then opened upon the groove in the point of the staff. The incision in and through the integuments should be free and about one and a half to two inches in length; the opening in the urethra is less, being from one-half to three-quarters of an inch, and stopping at the superior face of the stricture. The edges of the wound in the urethra are now to be held apart by a silk thread, which is passed through its *urethral* margin by means of a very delicate curved needle, and the threads, one on either side, are entrusted to the care of the two assistants, who are supporting the patient's knees (the method suggested and adopted first by Mr. Avery, of London). The staff-holder is now instructed to remove the staff. Through the incision made in the urethra a small probe is passed, either of whalebone or silver, and the opening into the stricture searched for. To enter this is not always an easy matter, but by care and patience, the probe can be gently insinuated into the smallest orifice, and through the closest stricture, *where urine can find its way;* being down upon the face of the obstruction, it is a much easier matter to introduce the probe than if it were passed from the meatus through the length of the canal. No force should be used, for it is very easy to create a false passage, and thus greatly complicate the success of the proceeding. After the probe has penetrated through the stricture, a second probe should be worked in alongside of the first, and on into the bladder; now, by gently pressing in first one and then the other, and separating them from each other, so as to stretch open the mouth of the stricture, it will be found to open sufficiently large to admit the in-

troduction of a small grooved probe, or a narrow probe-pointed tenotome, with a long shank, between the bristle probes. Having now gained an entrance for the knife, we have only to make an incision in the median line, with the edge of the knife directed downwards, and the stricture is cut; this must be done freely, so that no bands or fibres be left; the blade must pass through the mucous membrane into and through the submucus layer, *even to* but *not through* the fibrous element of the urethra.

We thus perform, as it were, an internal section of the stricture; we do not rip open the whole coärctated urethra and lay bare to the external wound the cavity of the canal where the stricture has been, but we leave the urethra, so far as the strictured part is concerned, just in the same condition as an urethra upon which we had performed an operation by internal urethrotomy. The opening down to and into the urethra is anterior to the face of the obstruction; it simply serves us the purpose, as it were, of shortening the canal, and placing it in the condition of a female urethra; it thus permits us to get near the seat of the disease, furnishing a passage of only a few lines in extent, in which to manipulate our instruments, instead of a canal of several inches in length, as would be the case if the urethra had not been cut open.

Having incised the stricture free enough to pass in a sound, we now introduce a full size gum catheter, draw off the urine, withdraw the catheter, and then gradually enlarge the calibre of the canal by the passage of metal sounds, until the urethra has reached its maximum point of dilatation possible. Having done this, we wash out the wound with clean, cold water, so as to clear it of any drops of urine which may possibly have entered it in the withdrawal of the catheter. After all appearance of any oozing of blood has ceased, we then place in the bladder, through the urethra, a full sized gum catheter, and proceed to close the wound accurately. For this purpose we employ the ordinary suture pins, of which we pass two, three, or four, as the length of the external wound may call for, entering them

about half an inch from the free margin of the wound in the integuments, and passing them deeply, almost to the urethra, and bringing them out on the opposite side, at the same distance from the edge of the incision to which they had been entered on the other side. The edges of the wound are now evenly and smoothly coäptated, whilst the intervals between the deep-seated pins are more securely closed by the introduction of smaller pins, which are passed less deeply—simply through the skin proper. The pins are now encircled by a firm, flat silk ligature running from one to the other, in the form of united figures of-8; we thus insure both superficial and deep pressure upon the sides of divided tissue. The catheter is left open in the urethra to drain off the urine as it is collected in the bladder. The patient is kept on his side in bed, with a pillow between the knees, and a urinal under the lip of the catheter to catch the urine as it escapes. The wound is kept constantly saturated with a mixture of cold water and the tincture of arnica, applied by means of soft cloths.

At the expiration of twenty-four to thirty-six hours the catheter is removed, and a new one substituted. In about two or three days the catheter is dispensed with, and only used when calls are made to micturate. On the fourth, fifth, or sixth day, as their appearance may indicate, the deep pins are removed, and as the perineum regains its shape and appearance, the superficial pins are one by one taken away.

Within a week we begin with a small size Beniqué sound, and gradually, every other day, increase the size of the instruments until the urethra reaches the size of its natural calibre.

Immediately after the operation we give from fifteen to twenty grains of quinine with forty drops of the elixir of opium, and for a day or two keep up a moderate impression with quinine and the tincture of chloride of iron. The latter being administered in ten to fifteen-drop doses three times per day, and continued for a week or ten days. We are careful to drain off the urine each time there is a call to relieve the bladder, until the wound has entirely healed, or so long as any ten-

derness exists about the seat of the stricture. With this course judiciously pursued, we can in the large majority of cases discharge our patient perfectly healed, and entirely cured, in from twelve to fourteen days. Upon his discharge he must be furnished with a metal sound and instructed as to its use, which he must continue for an indefinite length of time; unless he does the stricture will, as after all operations, close up again.

Now, what are the advantages to be derived from such a course? The main point is to hasten the healing of the wound in the urethra, and by the use of the pin suture, we place the parts in such perfect apposition that they must heal; we thus shorten the duration of time required for the patient to be kept confined, and, by gaining union by the first intention, we lessen the amount of cicatricial tissue which is always deposited in greater proportion, the longer the healing process continues. We believe there is less danger of secondary hæmorrhage after cases which are treated in this way than in any other. In resorting to the retained catheter for the first day or so, we are convinced that we lessen the risk of any hæmorrhage, as it acts at the onset by pressure upon the divided stricture; compresses the vessels which have been divided and which may bleed after reäction; it keeps open the urethra and prevents the stricture from again uniting in a very short time, as it is prone to do, as shown in those cases of internal section where no in-lying catheter has been kept.

For a day or so the presence of the catheter can do no harm, whilst it certainly does accomplish much good; it keeps the urine from the cut surface until it has glazed over with lymph, and, by its mechanical action upon the urethra, keeps it enlarged to such a point that when we begin to use the metallic sound for the purpose of dilating the urethra to its maximum point of distension possible, we will not find any obstruction in the way. I believe that this in-lying catheter has a powerful controlling influence towards preventing rigors and urethral fever, and upon these grounds: By the use of the catheter the urine does not at first come in contact with a raw surface, and

hence does not irritate the wound; after the second day the urine begins to find its way along the sides of the catheter, and then may do, as it will, injury; but at this date we remove the catheter, and only employ it whenever there are calls to urinate; we thus prevent any contact of urine with the wound. I am convinced that rigors are generally produced by the contact of the urine with the urethra, *immediately after* the introduction of a sound; for in those cases where I have guarded this point, by the use of the catheter, I have not had rigors to follow as a sequence of operations; and, as a proof of this fact, rigors do not generally come on after operations *until* the patient has urinated. This fact had engaged my attention some time since, and recently I have seen that mention has been made of it by Mr. Paget in his clinical lecture upon the treatment of stricture, published in the "British Medical Journal," April 2, 1870.

Another point of interest is, the climatic influences which govern the healing of wounds, and to which fact I may owe much of my success in gaining union by the first intention after external sections. It is well known by every one who has practiced medicine and surgery in and around Mobile, that wounds of all sorts heal more speedily here than in any other locality of the South; it not being an infrequent occurrence to gain primary union after the most extensive operations. I have had on one occasion the stump of an amputated thigh to heal by first intention, and have frequently seen amputations of less magnitude behave in the same way. I mention this to show what influence climate may have had upon the cases which I will now record.

Case I.—H. B., aged twenty-seven, August, 1868, has had stricture located in the first region, at the junction of bulb with membranous portion for several years; two fistules of small size in perineum. The stricture very tight and firm. Operated upon him by opening the urethra in advance of the stricture and then incising it subcutaneously. The fistules were split and cauterized. The wound made into urethra

closed with pin sutures, and a retained catheter left in urethra. In some six days the wound *had perfectly healed*, and the urethra admitted with ease a 46 Benique sound. The urine had ceased to pass by the sinuses leading from the urethra, and they were healing kindly by granulations. I have been unable to keep up the history of the case, as my patient left the city apparently well.

Case II.—F. B., a gentleman of this city, aged fifty-nine, had been troubled with stricture since he was nineteen years of age; near forty years. He first consulted me in the spring of 1868, having been under the care of a number of physicians, both regular and irregular. His urethra was riddled by false routes, one of which left the urethra in front of the bulb and entered the rectum. I have several times passed a No. 5 gum bougie through the urethra and brought it out at the rectum. And it was not an unusual occurrence when his bowels were in a lax condition for him to pass his fæces in small quantities mixed with urine via the urethra. Having tried in vain to get an instrument into the bladder so that I could perform an internal section, I informed him that I knew of no method by which I could hope to render him any relief, save by the operation done externally. To this he could not gain his assent; and determined to try to worry along as he had done for years. But during the winter and spring of 1869 he rapidly grew worse, his stricture was so far closed that he could pass his urine only in drops. Being unable to sleep, having to get in and out of bed from fifteen to twenty times during the night, his clothes saturated all the time from the constant overflow of urine; and his health fast failing from uræmic saturation, he made up his mind to submit to anything in the range of surgical art for relief; consequently the 26th of May, 1869, was selected as the day upon which he would submit to the operation proposed. Without prolonging the description by giving the steps of the operation, which was done after the manner previously given, I will simply state that on the 29th of May, four days after the operation, the pins were all removed, the wound,

which was made in the first region, and in extent two inches, directly in the median line of the perineum, *had healed perfectly by the first intention*, and with the exception of the little red points where the pins had been passed, and the line through which the incision had been made, there was no evidence of any operation ever having been performed. His urethra received with ease a No. 52 Bénique sound, and being instructed to pass a steel sound of this size once in two weeks for an indefinite length of time, he was discharged on the third day of June, just seven days from the day upon which the operation was done. Some six months after the operation I made a careful examination of his urethra with the ball bougie, and was unable to detect any remains of the stricture; the false routes had entirely healed; and for two years thereafter he enjoyed uninterrupted health; at which time he was taken with an attack of acute inflammation of the stomach and liver, from which he died.

Case III.—V. B., a gentleman aged forty-five, had been suffering for some twelve years from a stricture located near the lower margin of the fossa navicularis. I was called to see him on the 22d August, 1870; he had complete retention of urine, and was in a partial comatose condition; the stricture was at least half an inch in length, and so dense that it could be easily felt and examined through the urethra. I at once determined to lay the urethra freely open, and to close it with the pin suture, which was done by passing down to the face of the stricture a female sound, upon the end of which I cut down, and then continued my incision freely through the stricture. Placing in a No. 12 gum catheter, I drew off the urine, and closed the wound by passing two silver pins and encircling them with a silk thread in the form of a figure 8. On the 31st of the month, nine days from the date of operation, I discharged him perfectly well, the wound having healed by first intention. To this date, September, 1872, he has had no trouble from the stricture, and is not likely to have, as he is persistent in the use of his steel sound.

Case IV.—J. M., aged twenty-seven, called on me 21st of January, 1871, to examine him for a stricture located at the bulba junction with the membranous urethra. An abscess existed at the time exterior to the urethra, which I opened. Afterwards incised the stricture in the perineum, and closed it with pin sutures. The wound healed kindly, and the stricture was cured, and now remains patent to a 52 Benique sound. He uses a No. 15 English steel sound, and has no trouble. There is, however, a disposition to the formation of abscesses around the ischio-perineal fossa, which, when opened, discharged a small quantity of pus and then rapidly disappeared. There is, evidently, a connection between them and the urethra; but as they give so little trouble he is satisfied to get along without further surgical interference.

Case V.—B. W., colored, fifty-two years of age, was placed under my care in the summer of 1868, suffering from complete retention of urine, dependent upon two strictures. A slight stricture in the second region, and a hard, firm stricture at the junction of the first and second regions. When I first saw him he was comatose, and had been so some hours. I was then unable to get any history of his case. Finding it impossible to pass an instrument, I determined to cut through the first stricture, as it was a very slight one, with an urethrotome, in the axis of the urethra, which procedure let me down to the second stricture; for the relief of which I operated by the method (I have described) of external section; making my incision in the urethra anterior to the scrotum, which I closed by pin sutures, used a retained catheter, and gained union by first intention. I examined him last in December, 1870, and with ease introduced a No. 45 Benique sound. These are the main facts in this case, but as I did not keep close notes of the treatment, it is not in my power to give them more in detail. The chief point of interest in this case is the immediate union which took place, of an incision which was made into the urethra, just anterior to the scrotum, a locality where it is very difficult to close up urethral openings.

Case VI.—P. D., a youth of fifteen years of age, was brought to Mobile and placed under my care for treatment of an injury of the urethra and perineum. As the case is one of peculiar interest, I have thought proper to give the history of the accident, together with the course of treatment pursued, with its results. The facts are as follows: On the 7th day of March, 1867, this little boy was engaged in walking along the line of a plank fence; tripping his foot, he fell astride of a plank, bruising his perineum in a most terrible manner. Great swelling ensued, with total retention of urine, which lasted from that day until the night of the 10th instant, at which time a physician succeeded in passing a catheter, and drew off the urine. All this while he had remained in a state of absolute stupor. From that day his urine was drawn regularly for the succeeding eight days, when an abscess pointed and discharged a quantity of pus, mixed with urine. After which, for the next two months, a catheter was kept in the bladder until the opening of the fistule was thought to have healed, which was not the case, as, upon the removal of the catheter, the urine flowed as before through the fistule. "An operation" was now done, by laying open the sinus and then closing it with sutures, and a catheter retained for the succeeding eight days. After which, the catheter was removed, when the fistule again opened, with sloughing of the adjacent parts, and the urine ceased altogether to pass through the urethra. In this condition he continued to drag out a miserable existence for thirteen months, when he was brought to Mobile for treatment. He was placed under my care on the 14th of September, 1869. An examination revealed the fact that the urethra was closed completely at four and a half inches from the meatus. The perineum was sunken in, showing the ravages of extensive sloughing. A small fistule existed near the margin of the anus, through which his urine was voided in a strong, bold stream; in a word, his urethra was a "*cul-de-sac*" of four and a half inches in depth, at which point it ceased, and there was no evidence of any continuation or even remains of an urethra from that point toward

the bladder. In truth, the entire membranous, with a portion of the bulba urethra, seemed to have sloughed away. The course of treatment was soon decided upon, and with but faint hopes of success. I proposed the following operation, which was accordingly done. Properly prepared and secured in the position of lithotomy, a staff was introduced into the urethra, and down to the *cul-de-sac*, which was opened upon the point of the instrument; an incision was now made from the extremity of this opening, in the line of the raphe, to within half an inch of the anus, through the integuments, and the remains of the urethra sought for. Being unable to find anything else than a mass of cicatricial tissue where the urethra once was, I passed a probe through the sinus from the mouth of the fistule and on into the bladder. Connecting this sinus with a bold incision through the perineum, I now placed a No. 8 gum catheter through the urethra, laying it along the incision in the perineum, and thence on through the sinus into the bladder. The urine now passed boldly along the catheter. It remained only to bridge over the catheter in the perineum, which was easily done by turning over the flaps from either side and uniting them with pin sutures, and the operation was finished. The case progressed very well for four or five days, and the wound, in a measure, had healed, when he was seized with an attach of bilious fever, which lasted some two weeks, and from which he barely escaped with his life. Yet, notwithstanding this, the urethra was kept open by the introduction of the catheter whenever nature required to be relieved, and although one or two small fistules opened along the track of the incision, he nevertheless had the assurance that a canal existed from the bladder to the meatus of the penis. In this condition it became necessary that he should be sent to the country for a change of climate, it then being in the midst of our sickly season. His father was instructed in the use of the catheter, and advised to use it, night or day, as he had calls to urinate. He left Mobile in the early part of October, and I saw nothing more of him until the 27th of December following, when he

returned to the city. His father had regularly used the catheter as advised; and, upon examination, I found that a No. 38 Beneque sound passed with great ease along the urethra; that only one small fistule remained, into which I could scarcely introduce an Anel probe. The ball probe detached a rough, valvular point in the new-made urethra, which I incised with a retrograde urethrotome of Civiale, and having furnished him two steel sounds, Nos. 11 and 12, English scale, he left for home, with instructions to use the sounds at regular intervals of a week for an indefinite time, and to continue to draw off the urine with the catheter until the fistule was entirely healed, with what result the following extract from a letter recently received will fully explain:

"JUNE 10th, 1872. Alabama.

* * * * "P—— continues perfectly well; his urine has continued to pass without the least obstruction through the natural channel since the day of your first operation. The little fistule healed very soon after he left Mobile. The only means used to obtain this desirable end (*a final and perfect cure*) was the introduction of the bougie, as you directed, once or twice a week, after he came home; and through *courtesy to you*, he has continued to use it once in two weeks ever since, though he says *he is perfectly relieved*, and as well as he ever was in his life. * * * *

"I am truly your friend, J. D. D."

This was a most interesting case, and one which certainly goes to prove the very great value of such operations. Although not simply a case of external urethrotomy—for it is even more than this—it shows the possibility of making extensive operations in the urethra, and gaining immediate union thereafter.

CASE VII.—R. M. Q., a West Indian, aged thirty-eight, has, since he was nine years old, had trouble in passing his urine. Whilst a youth, had frequent attacks of retention. It was thought that he had been injured upon the pommel of a saddle.

After coming to the States, he had other trouble with his urethra, and was forced for years to introduce a catheter to enable him to pass his urine. In 1868, (September 18,) he came to me for treatment. An examination revealed a considerable deviation of the urethra, with a stricture in first region at bulba and membranous junction, through which, with difficulty, I passed a No. 2 English conical bougie. After fruitless endeavors to dilate the stricture, I freely incised it with an internal urethrotome. After which he was furnished with steel sounds to No. 45, Benique scale, and advised to use them. This he ceased to continue after the expiration of a month, as he "thought the stricture was well." The result was, the stricture gradually, slowly, but surely, closed up again. In the spring of 1871, it had contracted to a No. 5 English bougie, and he had difficulty in passing his urine. He tied in a catheter for six to eight hours each day, and got about as usual; but owing to neglect, his stricture had so far closed, that on the 22d of June, 1872, he was forced to place himself again under my care, with almost perfect and complete retention. After several hour's trial—with all the adjuvants—I was enabled to get into his bladder a whalebone probe of one-third of a millimetre in diameter, by Charrière's scale. On the next day he passed about a gill of urine. It being utterly impossible to effect anything by internal section, I proposed to perform my operation of external section. To this he objected; but as complete retention followed on the 24th, he sent for me, and requested that the operation should at once be performed. Calling in Drs. Hamilton, Gelzer, Iglehart, and Wm. Mastin, medical student, to aid me, I proceeded to perform the same operation which has been before described. Without consuming space or time with the details of treatment, as kept in my case-books, I will, in closing this report, say: The operation was performed on the 24th of June. The catheter was removed on the 26th. The pins were taken out on the 1st of July. On the 3d of the same month the pin-holes were closed up entirely; perineum perfectly smooth, showing only a red line along the raphe, and the

case discharged; having furnished him with a steel sound of No. 54 calibre, Benique scale. On the 24th of June he had, at 11 o'clock A. M., retention of urine. On the 3d of July, at same hour, *just nine days* thereafter, he was passing a No. 54 sound, having undergone the operation of external section, and been discharged *perfectly cured and the wound soundly healed.*

Case VIII.—M. R., aged thirty-two, a laboring man, was placed under my care, suffering with stricture, 1st of August 1872. He had suffered on various occasions for ten or twelve years past with retention; had been treated in Havana, where some operation had been done upon him, which he was unable to describe. His constitution was very much impaired, showing evident marks of syphilitic taint. The stricture located at the bulb was very hard and firm. With much difficulty I passed a whalebone probe one-third of millimetre. There was also a close stricture at the meatus. Having determined to operate by external section, I advised, after the suggestions of Dr. Gouley, a course of preparatory treatment, which, however, he was unable to continue for any length of time. As complete retention decided me on the morning of the 3d of August to perform the operation without further delay, so, assisted by Drs. Crampton (who had placed the case in my hands) Hamilton, Henderson, and in the presence of several other medical friends, I did the operation which is usual with me in these cases. Finding it to be necessary to open the mouth of the urethra so that a sound would pass to the stricture proper, it was accordingly done by Civiale's meatatome, when, owing to the excessive hæmorrhage, the operation was delayed for half an hour, until the hæmorrhage ceased. This showed the hæmorrhagic diathesis under which my patient labored, and I feared trouble when I should come to incise the bulba region of his urethra; yet I proceeded to perform the same operation that I had done in the other cases. Having opened both the urethra and stricture, I drew off some eighteen ounces of urine, but was unable to dress the wound, owing to the hæmorrhage which ensued. No vessel was cut, but the blood oozed fast

from the divided edges of the urethra, so much so that I was forced to delay the dressing for over an hour and a half, at which time, as in the other cases, I closed the wound over a retained catheter, using the pin suture. A No. 54 Benique sound passed with ease. He was placed upon the usual course of after-treatment, and continued to get along very well. That night he let the catheter slide out of his urethra, and it was not replaced until the next day. The next night he again either let it slip out or intentionally removed it, and passed his urine at pleasure through the urethra, soon after which he was taken with a rigor, followed by fever, which lasted until the next day—viz., 5th instant. Finding that he proved a rebellious patient, and disregarded advice and instructions, I determined to let him go on and see what would be the end of the case. All hopes were lost as to the success of gaining union by first intention. In attempting to pass a sound, there was considerable discharge of blood, and we concluded to let him rest without any interference, as he was passing his urine in a full stream, and the wound continued to look well. No change in his condition since the 6th instant, the pins seemed to remain as when introduced, when on the 15th I removed the pins, having left them in a very much longer time than is my habit; but as they seemed to be just as they were when introduced, I saw no necessity to make any change, and left them more for a support than any other reason. After the removal of the pins a small opening remained at one point of the entrance, from which some pus in very small quantities passed. The wound is healed in its entire length, and now twelve days since the operation the result shows perfect success.

There was some spasm of the urethra upon the passage of a sound, which necessitated that it should be touched with nitrate of silver on two occasions, so as to reduce the irritability, and permit the bougie to enter the bladder, which it now does, No. 18 Benique sound passing without obstruction.

In spite of the syphilitic taint and the hæmorrhagic diathesis of my patient, coupled with his unmanageable disposition,

the results of this case are most satisfactory and remarkable. In twelve days from the time of my operation my patient was relieved of his stricture, the wound in the perineum healed, and he ready to be discharged.

Such is but an outline of these cases; each one was a severe case, and in each I have had most unusual and remarkable success. It would have been interesting to have given day by day the notes of them as recorded in my case-book, but it would have only consumed time and space to have done so. The main essential points have been given with sufficient accuracy to show the operation was done, with its results. Another case, which would make the ninth in my list, I have unfortunately lost the notes of, and hence do not include it here.

I am not aware that like results have ever before been met with of such rapid recovery after such operations, and hence I give the outlines of the cases.

In this connection it may be well to say a word of caution in reference to the injurious effects which may result from all operations upon the male urethra, it matters not what method is adopted, or how trivial the interference may have been.

It is well known that the urethra is one of the most, if not the most delicate organ in the body, especially so in those nervous, debilitated subjects, the victims of long-standing urethral disease; here we find a class of patients peculiarly prone to great nervous shock; and who are easily affected by the most trivial operations done upon the genito-urinary system. It is not an unusual result after these operations that we find the gravest symptoms arise. I allude to the occurrence of active inflammation of the articulations, followed by the formation of pus in the joints, muscles, veins, cellular tissue and other structures. The symptoms which usher in these cases are so marked that the well-informed surgeon cannot fail to observe, and in the majority of cases should be enabled to meet and overcome them by judicious and properly executed treatment; a detail of which would be out of place in an article of this nature, as it is presumed that every one who is called upon to un-

dertake such operations will be at least so informed upon the subject that he will be at no loss to meet the complications which may arise; that he will at once recognize the indications as they present themselves, and to know by what course of treatment they are to be met and combatted.

There are, however, a class of persons of such delicate and impaired constitutions that even without the least warning given, may sink and die after the most trivial operation upon the urethra. The recorded case of a patient, in the hands of M. Velpeau, dying from tetanus the day after the introduction of a bougie, and upon whom an autopsy was at once made, and no signs whatever of any lesion being found, shows how trivial the cause may be which produces fatal results.

In my own limited observation, I now call to mind a case which I witnessed of a like fatal termination. A young man, sick of an ordinary case of remittent fever, was suffering from retention of urine. The physician in attendance (now dead), one of the most able and accomplished practitioners who ever resided in this section of the South, cautiously introduced a No. 8 silver catheter with the intention of drawing off his urine. There was no stricture, and no apparent disease of the genito-urinary system; but before the catheter had reached the bladder, the man was seized with a serious convulsion, and life was extinct in less time than I have consumed in writing this paragraph. An autopsy was made, but the cause was hidden in some portion of the sympathetic system, where we were unable to find it.

These facts are thus briefly noticed to draw the attention of the general practitioner to the dangers which may arise in this class of operations, and to suggest the necessity of prudence and preparation before such are undertaken. They are not given to discountenance proper and judicious surgical interference; for all operations are more or less dangerous. No one can predict the termination of the simplest, or say with certainty that the most serious will or will not prove fatal. One man has died from the sting of a bee, or the scratch of an oys-

ter-shell; another more fortunate has withstood the shock of a coxo-femoral disarticulation, or the operation of lithotomy. Who can then say that this or that man will or will not survive the slightest or the most serious operations upon the genito-urinary apparatus?

The urgency of the symptoms and the condition of the patient at the time are alike the indications which dictate the proceeding we are called upon to adopt in each particular case; for it is to avert more certain dangers that we are justified in calling into requisition the aid of the surgical art; and we are, upon this basis, supported and required to extend to our patient all the chances of relief.

Yet, notwithstanding there are strictures of the urethra which, from their obstinacy and duration, together with the serious constitutional troubles which they are producing, as for example, cystitis, hypertrophy of the walls of the bladder, dilatation of the ureters, with disorganization of the kidney itself, which require so grave a proceeding for their relief as external urethrotomy; we should not consider them of frequent or general occurrence. In proportion to the large number of strictures which apply to us for relief, such cases are comparatively rare; and even then, as a general rule, the operation of external section should not be resorted to until all other modes of rational treatment had been expended.

Hence, I feel safe in saying we will find the very large majority of strictures yield to some one of the milder methods, among which dilatation stands preëminent; and we are not far from correct when we advocate dilatation first. Dilatation always, although there are many strictures which are so very irritable that they will not tolerate the use of the bougie until the irritation has been, in a measure, subdued by the use of the milder caustics. Next to this, when a case has proved rebellious to the dilating power and cannot be overcome, then the operation of internal urethrotomy is peculiarly applicable, provided, as a necessity, that a guide-rod can first be introduced past the coärctation; here we will surely accomplish a much

safer proceeding than can be done by any other method.

As to divulsion—on general principles I am opposed to it, and in those cases where milder methods have failed, would always give the preference to external urethrotomy. And in the selection of the form of the operation, for reasons given, I will prefer the one which I have above described.

In offering the results of my own experience with this method in the treatment of strictures *after* external sections, I do so for the purpose of bringing it before the Profession, with the hope that more able investigators will test its merits, as well as the objections which may be brought to bear against it.

The statements which I have made are rigidly truthful. So far, I have had nothing but success; and I now lay the matter before the Profession, so that it can be tested on a larger scale. If, after a more extended investigation, this treatment should not hold good in practice, I will very willingly abandon it for a better, whenever such can be found; it matters not whether it be a creation of my own, or shall emanate from a more worthy source. And now, in conclusion, I am candid when I say, if the method which I have advocated should fail, I will most willingly be the first to announce it.

All I ask from the Profession is *a fair trial* before it is condemned. "Valeat quantum valere potest."

ADDENDUM.

Since the foregoing article went to press, the following case has fallen under treatment, and I here give a brief outline of it:

J. K., (colored), aged about fifty years, was placed in my charge January 14th, 1873. I found the urethra impervious to the bulb; five fistules involving the scrotum and the nates. His history was that he had labored under stricture for three years; that twenty months previous to this date he had been cut internally, but very little good resulted, as the fistules refused to heal, and in a short time the urine ceased to pass *via* the natural canal. Again, twelve months ago another opera-

tion for internal urethrotomy afforded no better results. I concluded upon the "*external section,*" and on the 16th day of January, operated after my method, and united the wound with two silver sutures, and retained a catheter thirty-six hours. The operation was a difficult one, as the perineum was very deep, and the deposit of cicatricial tissue very dense, the urethra also ending near the bulb in a "*cul-de-sac.*" Under the usual course of treatment adopted in these cases, *the wound healed by the first intention.* The urethra is open to No. 46 Benique scale, and the fistules are healing kindly. His water is drawn regularly by an attendant with a catheter, and the probability is, the cure is a complete and radical one.

(Personal)

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